1. In the below elements which of them are values or an expression? eg:- values can be integer or string and expressions will be mathematical operators.

\*

'hello'

-87.8

-

/

6

**Ans**: Values= 'hello' , -87.8 , 6

Expression = \* , -, /, +

2. What is the difference between string and variable?

**Ans**:

**String** is a combination of character and its fixed value, Eg: “iNeuron”

**Variable** value can be updated within a program or by taking the value from user.

3. Describe three different data types.

Python having data types as integer, float, string, list, dictionary, tuples, etc…

**List:** It is defined using [ ] square bracket, It may have heterogeneous values and can be updated (mutable) during the program. List elements are accessing using Indexing

Eg: list\_ex =[ 21, 3.2, “hello”, “hi”, 34]

**Tuples:** It is similar to List but some differences i.e. it is immutable (not able update during program), it is declare using () parenthesis. Tuples elements are accessing using Indexing.

Eg: Tuples\_ex = (22, “immutable”, 34.5, 2.0)

**Dictionary**: In this item is stored in format of KEY and VALUE. It is declared using {} curly braces. It is also immutable. In this duplicate key element is not allowed.

Ex: dict\_ex= {‘name’ : ‘vkb’, ‘weight’: 70, ’height’: 5.5}

4. What is an expression made up of? What do all expressions do?

**Ans**: expression is made up of variable, mathematical operator, sometimes constant values as one operand. Expression perform mathematical operation and assign the values to the variables.

5. This assignment statements, like spam = 10. What is the difference between an expression and a statement?

**Ans**: Expression perform mathematical operation and update the variable value while statement just assign the value.

Ex: x= a+b #Expression example

Y= 12 # Statement Example

6. After running the following code, what does the variable bacon contain?

bacon = 22

bacon + 1

**Ans:** bacon =22 because after addition we r not assign the updated value to bacon.

7. What should the values of the following two terms be?

'spam' + 'spamspam'

'spam' \* 3

**Ans:** spamspamspam

spamspamspam

Both the expression gives same result

8. Why is eggs a valid variable name while 100 is invalid?

**Ans:** eggs is valid name because it started with alphabet while 100 is invalid because its first letter is number ‘1’.

9. What three functions can be used to get the integer, floating-point number, or string version of a value?

**Ans:** int() # Integer function

float() # Float Function

str() # String Function

10. Why does this expression cause an error? How can you fix it?

'I have eaten ' + 99 + ' burritos.'

**Ans:** error because **99** is not in single quote. We can fix it by adding single quote to ‘99’

**'I have eaten ' + ‘99’ + ' burritos.'**